

Claims

- 1) Equipment for filling containers, comprising:
-a supporting structure (13) affording a stand for at least one container (2) to be filled with at least one packageable substance;
5 -a first outlet (9), connected to a first tank (11) holding a first substance, by which the first substance is dispensed into the container (2);
-a second outlet (10) connected to a second tank (12) holding a second substance, by which the second
10 substance is dispensed into the container (2);
characterized in that it comprises motion-inducing means (15) by which the supporting structure (13) is rendered capable of movement relative to the first and second dispensing outlets (9, 10) between a first
15 position, in which the first such outlet (9) is placed in alignment at least with a mouth (5) of the container (2), and a second position in which the second outlet (10) is placed in alignment with the mouth (5) of the container (2).
- 20 2) Equipment as in claim 1, wherein the motion-inducing means (15) are associated actively with the supporting structure (13) for the purpose of moving the selfsame structure between the first and the second position.
- 25 3) Equipment as in claim 2, wherein the supporting structure (13) is anchored pivotably to a frame (6)

of the equipment (1) and free thus to swing on a pivot axis (Y) extending substantially parallel to a predominating axis (A) of the container (2).

4) Equipment as in claim 3, wherein the supporting structure (13) is hinged to the frame (6) at a point between the first and the second outlet (9, 10).

5) Equipment as in claim 3 or 4, wherein the supporting structure (13) is hinged to the frame (6) in such a way that the relative pivot axis (Y) will lie equidistant from the first and second outlets (9, 10).

6) Equipment as in claims 3, 4 or 5, wherein the motion-inducing means (15) comprise a fluid power actuator (16) interposed and operating between the supporting structure (13) and the frame (6).

7) Equipment as in claim 6, wherein the fluid power actuator (16) comprises a cylindrical housing (18) anchored to the frame (6), also a movable rod (19) engaging slidably with the cylindrical housing (18), attached to the relative supporting structure (13) at the end remote from the cylindrical housing (18) and able to stroke between a retracted position, in which the greater part of its length lies internally of the cylindrical housing (18), and an extended position in which the greater part of its length lies externally of the cylindrical housing (18).

8) Equipment as in claim 7, wherein the cylindrical housing (18) is anchored pivotably to the frame (6) and the movable rod (19) anchored pivotably to the supporting structure (13), in such a way that the movement of the rod (19) between the retracted position and the extended position will produce at least a degree of angular movement in the fluid power actuator (16).

9) Equipment as in claim 8, wherein the cylindrical housing (18) is hinged to a mounting flange (20) extending from the frame (6) and the movable rod (19) is hinged to a linkage flange (13c) projecting from the supporting structure (13).

10) Equipment as in claims 1 to 9, wherein the supporting structure (13), the first outlet (9), the second outlet (10) and the motion-inducing means (15) combine to constitute a filler unit (8) of the equipment (1), and the frame (6) presents at least one substantially cylindrical carousel (7) drivable in rotation about a substantially vertical axis (X) and equipped with a plurality of filler units (8) distributed circumferentially about the axis of rotation (X).

11) Equipment as in claim 10, wherein each filler unit (8) is furnished with sensing means (21) such as will indicate the level of the substance in the container (2) and allow and/or disallow the flow of

the first or the second substance as and when predetermined quantities of the substances are dispensed into the respective container (2).

5 12) Equipment as in claim 11, wherein the sensing means (21) of each filler unit (8) comprise at least one weighing device (22) associated actively with the respective supporting structure (13) and serving to detect the variations in weight of a container (2) during the filling operation.

10 13) Equipment as in claim 12, wherein each weighing device (22) comprises a weighing platform (23) on which to stand a respective container (2) being filled with the first and second substances.

15 14) Equipment as in claims 10 to 13, wherein each filler unit (8) comprises clamp means (24) such as will retain the respective container (2) on the relative supporting structure (13) in a stable position.

20 15) Equipment as in claims 10 to 14, wherein the supporting structure (13) of each filler unit (8) is attached removably to the carousel (7).

16) Equipment as in claims 12 to 15, comprising electronic control means connected to the sensing

means (21), serving to monitor and govern the operation of filling the containers (2).

17) Equipment as in claim 16, wherein the electronic control means comprise an actuating unit associated with the motion-inducing means (15) of each filler unit (8) and serving to bring about the movement of the respective supporting structure (13) between the first and the second filling position.

18) Equipment for filling containers, comprising

- a frame (6) with at least one rotating carousel (7) drivable in rotation about a substantially vertical axis (X);
- a first supply tank (11) associated with the carousel (7) and holding a first packageable substance;
- a second supply tank (12) associated with the carousel (7) and holding a second packageable substance;
- a plurality of filler units (8) arranged circumferentially about the axis of rotation (X), each comprising a first and a second dispensing outlet (9, 10) connected respectively to the first and to the second tank (11, 12), and a supporting structure (13) affording a stand for a respective container (2) to be filled with the first substance and the second substance,

characterized in that each filler unit (8) is equipped with motion-inducing means (15) by which the

supporting structure (13) is rendered capable of movement relative to the first and second dispensing outlets (9, 10) between a first filling position, in which the first outlet (9) is placed in alignment with a mouth (5) of the container (2), and a second filling position in which the second outlet (10) is placed in alignment with the mouth (5) of the container (2).

19) Equipment as in claim 18, wherein the motion-inducing means (15) of each filler unit (8) are associated actively with the supporting structure (13) for the purpose of moving the selfsame structure between the first and the second position.

20) Equipment as in claim 19, wherein the supporting structure (13) of each filler unit (8) is anchored pivotably to a frame (6) of the equipment (1) and free thus to swing on a pivot axis (Y) extending substantially parallel to a predominating axis (A) of the container (2).

21) Equipment as in claim 20, wherein the supporting structure (13) is hinged to the frame (6) at a point between the first and the second outlet (9, 10).

22) Equipment as in claim 20 or 21, wherein the supporting structure (13) is hinged to the frame (6) in such a way that the pivot axis (Y) of the

structure lies equidistant from the first and second outlets (9, 10).

23) Equipment as in claims 18 to 22, wherein the motion-inducing means (15) of each filler unit (8) comprise a fluid power actuator (16) interposed and operating between supporting structure (13) and the frame (6), comprising a cylindrical housing (18) anchored to the frame (6), also a movable rod (19) engaging slidably with the cylindrical housing (18), attached to the relative supporting structure (13) at the end remote from the cylindrical housing (18) and able to stroke between a retracted position, in which the greater part of its length lies internally of the cylindrical housing (18), and an extended position in which the greater part of its length lies externally of the cylindrical housing (18).

24) Equipment as in claims 18 to 23, wherein each filler unit (8) is equipped with sensing means (21) such as will indicate the level of the substance in the container (2) and allow and/or disallow the flow of the first or the second substance as and when predetermined quantities of the substances dispensed into the respective container (2).

25) Equipment as in claim 24, wherein the sensing means (21) of each filler unit (8) comprise at least one weighing device (22) associated actively with the respective supporting structure (13) and serving to

detect the variations in weight of a container (2) during the filling operation.

26) Equipment as in claim 25, wherein each weighing device (22) comprises a weighing platform (23) on which to stand a respective container (2) being filled with the first and second substances.

27) Equipment as in claims 18 to 26, wherein each filler unit (8) comprises clamp means (24) such as will retain the respective container (2) on the relative supporting structure (13) in a stable position.

28) Equipment as in claims 18 to 27, wherein the supporting structure (13) of each filler unit (8) is attached removably to the carousel (7).

29) Equipment as in claims 24 to 28, comprising electronic control means connected to the sensing means (21) of each filler unit (8), serving to monitor and govern the operation of filling the containers (2).

30) Equipment as in claim 29, wherein the electronic control means comprise an actuating unit associated with the motion-inducing means (15) of each filler unit (8) and serving to bring about the movement of

the respective supporting structure (13) between the first and the second filling position.

31) Equipment as in claims 18 to 30, wherein the first and second tanks (11, 12) are located
5 internally of a hollow casing (7a) carried by the carousel (7), furnished with first and second couplings (7b) interposed respectively between the first and second tanks (11, 12) and the first and second outlets (9, 10) and serving to connect the
10 selfsame first and second outlets (9, 10) to the first and second tanks (11, 12).